EXAMINER'S AMENDMENT

Amendment

1. This office action is responsive to the amendment filed on 12/9/10 and the examiner initiated interview held on 1/24/11. As directed by the amendment: claims 132, 134-136, 138-145, 147, 149-151,153, 154, 158, 160, 161,163, 164, 166, 171-184, 186-188, 190, 191,193, 195 and 196 have been amended, claims 133, 146, 165, 189, 192 and 194 have been canceled, and new claims 197-311 have been added. Thus, claims 132, 134-145, 147-164, 166188, 190-191, 193 and 195-311 are presently pending in the application.

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Paul Bowen on 1/24/11.

The application has been amended as follows:

136. (Currently Amended) A humidifier-comprising a removable water tank having a water tank lid with an outlet, a humidifier base having a water tank receiving portion; and a humidifier lid having an outlet adapted to mate with an air delivery tube, the

humidifier lid being connected to the humidifier base such that the humidifier lid is movable between a closed position and an open position while connected to the humidifier base; wherein the humidifier lid is adapted to seal against a surface surrounding the outlet of the water tank lid to such that the humidifier includes a sealed air flow path extending from the water tank and through the outlet of the humidifier lid when the humidifier lid is in the closed position.

198. (Currently Amended) A respiratory apparatus for treating a patient comprising a base and a tank, a flow path extending from an inlet of the base to an outlet of the base, the tank forming an intermediate part of the flow path and including a tank inlet and a tank lid having a tank outlet, the base having a rear tank seal, a top tank seal, and a humidifier lid having an inner surface on which the top tank seal is mounted, the humidifier lid being movable between an open position in which the tank is removably insertable into the base and a closed position, wherein the tank and the base are configured and arranged such that insertion of the tank in the base and closing of the humidifier lid seals the tank inlet and outlet against the rear tank seal and the top tank seal, respectively, and secures the tank relative to the base.

203. (Currently Amended) An apparatus for treatment of obstructive sleep apnea, comprising: a continuous positive airway pressure device capable of providing a supply of air at a pressure in the range of about 4cmH20 to about 20cmH20; and a humidifier connectable to the continuous positive airway pressure device, the humidifier including:

a humidifier base, a humidifier lid hingedly connected to the humidifier base to allow the humidifier lid to close and open, the humidifier lid including an air delivery pipe constructed and arranged to mate with an air delivery tube, the humidifier lid further including a lid seal, the humidifier base further including a humidifier heater plate and a humidifier base seal; and a removable water tank having a tank base to receive water and a tank lid, the tank base including a heat conductive portion to conduct heat from the humidifier heater plate to water in the tank in use, the apparatus further comprising a latch to releasably connect the continuous positive airway pressure device to the humidifier; and a locking mechanism constructed and arranged to releasably hold the humidifier lid when closed, wherein the humidifier base is constructed and arranged to receive the water tank when the humidifier lid is open; wherein, when the humidifier base receives the water tank, the heat conductive portion of the water tank is positioned relative to the humidifier heater plate to allow heat transfer communication therebetween in use; wherein, when the continuous positive airway pressure device and the humidifier are latched together and the humidifier lid is closed with the water tank placed in the humidifier base, a sealed gas flow path is established, said sealed gas flow path extending from the continuous positive airway pressure device, through a humidifier base seal located between the humidifier base and a rear surface of the water tank, through an interior of the water tank, through the lid seal surrounding an outlet of the tank lid and located on an underside of the humidifier lid, and to the air delivery pipe of the humidifier lid; and wherein an engagement face of the continuous

positive airway pressure device includes electrical connectors to deliver power to the humidifier heater plate.

237. (Currently Amended) A humidifier comprising a removable water tank having a water tank lid; a humidifier base having a water tank receiving portion; and a humidifier lid having an outlet adapted to mate with an air delivery conduit; wherein the humidifier lid is adapted to be in sealing relationship with an outlet of the water tank lid to allow a flow of air from the water tank to the air delivery conduit when the humidifier lid is in a closed position.

243. (Currently Amended) A breathable gas supply apparatus for treatment of respiratory disorders comprising: a continuous positive airway pressure device; and a humidifier adapted for releasable connection to the continuous positive airway pressure device, the humidifier comprising: a humidifier base having 1) an air inlet port adapted to receive a supply of breathable gas from the continuous positive airway pressure device and 2) an aperture downstream of the air inlet port; a first seal adjacent the aperture; a removable water tank having an air inlet and an air outlet, and a respective surface surrounding each of the air inlet and the air outlet, the surface surrounding the air inlet being flat; a humidifier lid with an air delivery portion adapted to mate with an air delivery tube so that the supply of breathable gas can be provided to a patient interface; and a second seal located on an underside of the humidifier lid, wherein: the first seal is adapted to be in sealing relationship with the flat surface surrounding the air inlet of the

water tank when the water tank abuts the first seal; and the second seal is adapted to be in sealing relationship with the surface surrounding the air outlet of the water tank when the humidifier lid is in a closed position.

264. (Currently Amended) A humidifier adapted to receive a supply of air at positive pressure for delivery to an air delivery tube, comprising a base with a heater plate, a removable water tank configured to be at least partly received in the base, and a humidifier lid in sealed communication with an outlet of the water tank and having an air delivery tube connector configured for connection to the air delivery tube, wherein the water tank includes a tank base and a water tank lid.

265. (Canceled).

266. (Currently Amended) The humidifier according to claim [[265]] 264, wherein the water tank lid is configured for pivoting movement relative to the tank base.

277. (Currently Amended) A humidifier adapted for interconnection between a continuous positive airway pressure device and an air delivery tube for delivery of a supply of humidified breathable gas to a patient for treatment of obstructive sleep apnea, said humidifier including an air flow path between the continuous positive airway pressure device and the air delivery tube, the humidifier having a water tank and the humidifier being constructed and arranged to allow removal of the water tank for refilling

with water without disconnection of the air delivery tube, wherein the water tank is configured to be in sealing relationship with the air flow path when an inlet to the water tank ~~abuts~~ is pressed against a first seal of the humidifier and a lid of the humidifier is pressed against an outlet of the water tank.

281. (Currently Amended) A respiratory apparatus for a patient, comprising: a base unit having a hinged lid and a base seal, the lid having an aperture, an inside lid seal provided around the aperture, and an air delivery tube connector extending from an outside surface of the lid and configured to be connected to an air delivery tube; and a removable humidifier tank having a generally flat rear inlet sealing surface engaged with a generally flat sealing surface of the base seal when the lid is open and the tank is received in the base unit, the tank including a top outlet surface engaged with a surface of the lid seal and in communication with the connector via the aperture when the lid is closed, wherein the tank is sealingly positioned in the base unit without requiring tubular connection between the tank and base unit.

289. (Currently Amended) A respiratory apparatus for a patient, comprising:
a base unit having a hinged lid, said base unit further including a first seal portion and a second seal portion; and a removable humidifier tank having a generally flat inlet sealing surface engaged with a generally flat sealing surface of the first seal portion when the lid is open and the tank is received in the base unit, the tank including an outlet surface engaged with a surface of the second seal portion when the lid is closed,

wherein in use the first and second seal portions seal with the inlet and outlet of the tank in sealing planes that are generally perpendicular to a direction of flow of pressurized gas through the inlet and the outlet such that the tank is sealingly positioned in the base unit without requiring tubular interconnection between the tank and base unit.

295. (Currently Amended) A humidifier for a continuous positive airway pressure device, the humidifier comprising: a removable water tank having a water tank lid, said water tank lid having a water tank outlet, a humidifier base having a water tank receiving portion to receive the water tank and a heater plate to heat water in the water tank; a humidifier lid having a humidifier lid outlet adapted to mate with an air delivery tube; and a lid seal positioned between the water tank lid and the humidifier lid, said lid seal being positioned and structured to form a seal surrounding the water tank outlet of the tank lid to establish a sealed air flow path extending from the water tank outlet of the water tank lid, and through the humidifier lid outlet, wherein the water tank includes an air inlet aperture structured and located to at least partly protect against flowback of water from the inlet aperture of the water tank to the continuous positive airway pressure device in use, at least when the humidifier is tipped.

Reasons for allowance

3. The following is an examiner's statement of reasons for allowance: the prior art by itself or in combination does not disclose a humidifier with humidifier lid, a removable water tank housed within the humidifier, the water tank having either a water tank lid or

water tank outlet, and a sealed air flow path between a supply of positive airway pressure and an outlet of a humidifier lid.

4. The closest prior art includes Hewson et al. (6,435,180) who discloses a humidifier with humidifier base and lid, water tank with water tank lid, but does not disclose a humidifier lid forming a seal with the water tank lid or outlet defining a sealed flow path from the from the supply of pressure to the humidifier lid outlet. Blackmer et al. (4,953,546) discloses a humidifying device with a humidifier base and top and a water tank with a top, but does not disclose that the water tank is removable. Other pertinent prior art includes Smith 5,588,423), Moberg (6,718,974), Dobson et al. (5,673,687), Chauviaux (6,275,652), Lipscombe et al. (6,554,260), Birdsell (6,052,511), Mizoguchi (4,644,790), Stanek et al. (5,061,405), Glucksman (6,314,237) and Chiu et al. (5,483,616).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RACHEL T. YOUNG whose telephone number is (571)270-1481. The examiner can normally be reached on mon-thurs 7 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Justine Yu can be reached on 571-272-4835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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